

Claims:

1. A farm implement capable of being transported on highways without exceeding normal limits for height, width and length comprising (1) a central section having a width less than the maximum legal width allowed for transport on a public roadway without special precautions for wide loads, said central section consisting of a frame carrying at least one gang of farm instruments for work on soil or plants; (2) at least one left wing mounted on the central section, said wing having a gang of farm instruments dependent therefrom and movable between (a) a work mode wherein the instruments engage soil or plants and (b) a transport mode wherein the wing is lifted above the central section to a location within the said legal width of the central section; (3) at least one right wing mounted on the central section, said wing having a gang of farm instruments dependent therefrom and movable between (a) a work mode wherein the instruments engage soil or plants and (b) a transport mode wherein the wing is lifted above the central section to a location within the said legal width of the central section; (4) a hydraulic system for lifting the wings connected to an external source of hydraulic power; and (5) at least two lifting mechanisms for lifting left and right wings to a road-legal location above the central

section for lifting the left gang and the right gang to a position above the central section that is road-legal.

2. A farm implement as in claim 1 wherein each lifting mechanism consists of a hydraulic cylinder secured to the central frame that pushes an articulated arm cooperating with said wing upward to raise the wing to a position above the central section.

3. A farm implement as in claim 4 wherein the hydraulic cylinder has a bore of approximately three inches and a stroke of approximately eight inches.

4. A farm implement as in claim 1 wherein the frame of the central section carries an axle supporting wheels for transporting the farm implement, said axles capable of being lowered to a transport position or raised to a work position in which the instruments engage in work.

5. A farm implement as in claim 1 wherein each wing has a hold-down linkage that permits the wing to flex when rising or lowering said linkage consisting of a support arm adjustably attached to the central frame on one end and slidably engaged to a hold-down box on the wing, whereby the support arm slides in and out of a hold-down box on the wing as the wing flexes.

6. A farm implement as in claim 1 wherein the wings are folded upward over the central section in a transport mode in which the maximum width of the entire implement is eight feet or

less and the maximum height of the farm implement on a
5 transport trailer is fourteen feet or less, whereby transport may be
accomplished without escort, special permits or "wide load" signs
and flashing lights.

7. A farm implement comprising (1) a central section
having a width less than the maximum legal width allowed for
transport on a highway without special precautions for wide
loads, said central section consisting of a frame from which are
5 suspended a forward gang of farm instruments and a rear gang
of instruments; (2) a left wing mounted on said central section
having a forward gang of instruments cooperating with the
forward gang of instruments on the central section and a rear
gang of instruments cooperating with the rear gang of
instruments on the central section; (3) a right wing mounted on
10 said central section having a forward gang of instruments
cooperating with the forward gang of instruments on the central
section and a rear gang of instruments cooperating with the rear
gang of instruments on the central section; (4) a hydraulic system
cooperating with the forward gang of instruments on the central
section and a rear gang of instruments cooperating with the rear
gang of instruments on the central section; (4) a hydraulic system
15 connected to an external source of hydraulic power; and (5) four
lifting mechanisms powered by the hydraulic system for lifting the
left front and rear gangs and the right front and rear gangs to a
position above the central section that is road-legal in both height
and width.

8. A farm implement as in claim 7 wherein the gangs of instruments constitute tandem disc harrows.

9. A farm implement as in claim 7 wherein the four lifting mechanisms are four hydraulic cylinders, each having a bore of approximately three inches and a stroke less than twelve inches, raise each of the front and rear left gangs and the front and rear right gangs.

5 10. A farm implement as in claim 7 wherein the forward gangs on the two wings and in the central section are adjustably mounted relative to the path of travel of the implement to adjust the work performed by the instruments on the soil.

11. A farm implement as in claim 7 wherein the central section is supported by wheels in the transport mode with the wings lifted, said wheels being retracted in the work mode to enable the implement to be supported by the farm instruments engaging the soil.

5 12. A farm implement as in claim 7 wherein each of the wings is equipped with a hold-down mechanism operating in either a locked position in the work mode or in a flex position in the transition to and from the transport mode, said flex position comprising an arm cooperating with the central section and slidably engaged with a wing-mounted hold-down to permit the wings to flex while being raised or lowered.

13. A farm implement as in claim 7 wherein each wing is raised by pushing upper and lower arms inwardly, said arms pivoting about an elbow connecting them, said upper arm cooperating with a lifting mechanism and said lower arm 5 cooperating with the wing, and the locking pin securing each lower arm to the corresponding raised wing in the transport mode, whereby the wings cannot be accidentally lowered during transport.